

Remarks

The following remarks are responsive to the April 1, 2008 Office Action.
Reconsideration is respectfully requested.

Status of the Claims

Claims 19 and 27 are cancelled. Claims 39 and 40 are added. Claims 20-22, 24, 26, 28-31, 33 and 38 are amended. Claims 20-22, 24-26 and 28-40 are pending.

Support for Added Claims/Claim Amendments

Claims 39 and 40 are added. Claims 20, 22, 24 and 26 are amended to depend from new Claim 39, and Claims 28-31, 33 and 38 are amended to depend from new Claim 40. Claims 21, 26 and 31 are amended to delete the term "facial". Support for the added claims and claim amendments is found in the specification on page 6, line 19 to page 7, line 11; page 9, line 15 to page 10, line 2; page 14, line 24 to page 15, line 6; and on page 16, line 12 to page 17, line 6. No new matter is added.

Objection to the Specification

The specification was objected to for failing to include a description of Figure 8 in the Brief Description of the Drawings section. The Examiner's attention is respectfully directed to the Preliminary Amendment filed with the application herewith, wherein an amended description of all the Figures, including Figure 8, was provided (contrary to the Examiner's remarks on page 13, paragraph 36 of the Action). Accordingly, the Examiner is requested to reconsider and withdraw the objection.

Rejections under 35 U.S.C. § 112, first paragraph

Claims 19-22 and 24-38 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In view of the cancellation of Claims 19 and 27, and the addition of new claims 39 and 40, it is believed that the

invention is clearly defined, and that the rejection is overcome. Reconsideration and withdrawal of the rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Rejection based on Wilson and Querlaux

Claims 19-21, 26-27, 31-32 and 38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,540,235 (Wilson) in view of U.S. Publication No. 2003/0225326 (Querlaux). Since Claims 19 and 27 are cancelled and replaced with new Claims 39 and 40, respectively, the following remarks relate to new Claims 39 and 40.

Applicants' invention relates to a method and an apparatus for the non-invasive, *in vivo*, determination of the conductivity of nerves in a region of skin. The apparatus includes a first and second electrode, an electronic stimulator connected to a first and second stimulation electrode, a reference electrode, and a circuit connected to the electrodes for determining the conductivity of the nerves in a first and second region of a skin substrate, both prior to topical application of a compound and electrical stimulation, and after topical application of a compound and electrical stimulation, in addition to a display that shows the differentials in the signals detected.

Wilson relates to an adaptor for neurophysiological monitoring with a personal computer. The monitoring system includes a first detection circuit for allowing detection of analog neurophysiological signals at a first site, a data processing circuit, and an output device. A second detection circuit is provided to detect analog signals at a second site. The system may also include a stimulation device connected to the power supply for administering a neurophysiological stimulation to the patient. The stimulation device is used to diagnose diseases of the nerves, along each segment of the nerve, by applying an electric shock, as initiated by an operator, over the nerve to be tested.

Wilson fails to disclose a method or an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical

stimulation, and which displays the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals, as correctly asserted by the Examiner. In support of the rejection, the Examiner relies on Querlaux as allegedly teaching that the reactivity and/or hypersensitivity of the skin substrate are determined by analyzing brain images for such information. With respect to paragraph 14 of Querlaux (cited by the Examiner), the sensitivity of the skin is disclosed as being determined by a technique other than brain imaging, yet the type of technique is not disclosed. The only techniques disclosed by Querlaux are brain imaging techniques.

Contrary to the allegations of the Examiner, the addition of Querlaux fails to cure the deficiencies of Wilson, since Applicants' method and device do not include brain imaging techniques. Therefore, the combination of references cannot be said to render the invention obvious, and the rejection should be withdrawn. Reconsideration and withdrawal of the rejection is respectfully requested.

Rejection based on Wilson and Querlaux in view of Zealear

Claims 22, 24-25 and 30 were rejected as being unpatentable over Wilson in view of Querlaux, and further in view of U.S. Patent 4,817,628 (Zealear). The arguments made above concerning the deficiencies of Wilson and the failure of Querlaux to cure the deficiencies of Wilson are hereby reasserted as if set forth at length.

Zealear relates to a system and method for evaluating neurological function controlling muscular movements, and for evaluating peripheral nerve function. The system includes an accelerometer sensor for measuring evoked movement, a stimulus electrode assembly, and a portable DC powered device. The device has a sensor circuit, a stimulus circuit, and a timing circuit. The system assesses nerve function by measuring the mechanical activity evoked by the stimulation.

With respect to Claim 39 (from which Claims 22, 24-25 and 30 depend), Zealear does not teach or suggest a method for determining the conductivity of nerves *in vivo*

as claimed. Zealear also does not teach or suggest a method for detecting and analyzing electrical signals, prior to and after topical application of a compound and stimulation, which determines the reactivity and/or hypersensitivity of the skin substrate based on the analyzed signals.

Since Zealear fails to teach or provide a reason to one skilled in the art to provide a method for determining the conductivity of nerves *in vivo*, as set forth above, the addition of Zealear to Wilson and Querlaux does not cure the deficiencies thereof. In addition, no line of reasoning is provided as to why one skilled in the art would have found it obvious, after reading Zealear, to modify Wilson and Querlaux to provide the method as claimed. Since there is no teaching or convincing line of reasoning provided as to why one skilled in the art would have found it obvious to modify Wilson and Querlaux in view of Zealear to arrive at the invention as claimed, the rejection should be withdrawn. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejection based on Wilson and Querlaux in view of Dunseath

Claims 28-29 were rejected as being unpatentable over Wilson and Querlaux in view of U.S. Patent No. 5,003,978 (Dunseath). The Examiner alleges that Wilson does not disclose the electrode as being non-polarizable, or comprising a material selected from the group consisting of stainless steel, tungsten, noble metals and mixtures thereof, and that Dunseath discloses this aspect. The arguments made above concerning the deficiencies of Wilson and the failure of Querlaux to cure the deficiencies of Wilson are hereby reasserted as if set forth at length.

Dunseath relates to a non-polarizable dry biomedical electrode for detection of biopotentials on the surface of a skin of a living body. The electrode includes a conductive substrate with a conductive adhesive.

As set forth above, the combination of Wilson and Querlaux fails to disclose or teach an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, which displays a curve

representative for differentials in the signals detected based on the analyzed signals as in Claim 40 (from which Claims 28-29 depend). The disclosure by Dunseath of various conductive materials (none of which includes stainless steel as alleged by the Examiner) does not cure the deficiencies of Wilson and Querlaux. Since there is no teaching, or convincing line of reasoning provided to one skilled in the art to modify Wilson and Querlaux to provide an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, and which displays a curve representative for differentials in the signals detected based on the analyzed signals as in Claim 40, the rejection should be withdrawn. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejection based on Wilson and Querlaux in view of Miyata

Claims 33-35 were rejected as unpatentable over Wilson in view of U.S. Patent No. 6,026,321 (Miyata). The Examiner alleges, with respect to Claims 33-35, that Wilson does not disclose at least one preamplifier with high input impedance over a voltage range of from -3 to +3 volts, and that Miyata discloses this aspect. The arguments made above concerning the deficiencies of Wilson and the failure of Querlaux to cure the deficiencies of Wilson are hereby reasserted as if set forth at length.

Miyata relates to an apparatus which includes: a pair of conductors; an amplifier; a transmitter; a voltage-divider circuit; and a compensator circuit, for measuring electrical potential variation in a human body. Miyata does not measure conductivity of nerves on a skin substrate, but instead measures myoelectric (muscle) potentials.

As set forth above, Wilson fails to disclose or teach an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, which displays a curve representative for differentials in the signals detected based on the analyzed signals as in Claim 40 (from which Claims 33-35 depend). The disclosure by Miyata of a preamplifier does not cure the deficiencies

of Wilson and Querlaux. Since there is no teaching, or convincing line of reasoning provided to one skilled in the art to modify Wilson and Querlaux to provide an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, and which displays a curve representative for differentials in the signals detected based on the analyzed signals, the rejection should be withdrawn. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejection based on Wilson, Querlaux and Miyata in view of Bergman

Claims 36-37 were rejected as being unpatentable over Wilson in view of Miyata and further in view of U.S. Patent No. 4,257,010 (Bergman). The Examiner alleges, with respect to Claims 36-37, that Wilson, modified by Miyata, discloses at least one preamplifier connected to the non-invasive measuring electrode, but does not disclose the at least one preamplifier connected to the non-invasive measuring electrode by a shielded cable, and that Bergman discloses connecting wires surrounded by a shielding to prevent interference. The arguments made above concerning the deficiencies of Wilson and the failure of Querlaux to cure the deficiencies of Wilson are hereby reasserted as if set forth at length.

Bergman relates to a method and apparatus for sensing and maintaining oscillations in an oscillating system. The apparatus includes a signal transmitter.

As set forth above, Wilson fails to disclose or teach an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, and which displays a curve representative for differentials in the signals detected based on the analyzed signals as in Claim 40 (from which Claims 36-37 depend). The disclosure by Miyata of a preamplifier does not cure the deficiencies of Wilson and Querlaux. The additional disclosure by Bergman of shielded wires does not cure the deficiencies of Wilson, Querlaux, and Miyata.

Since there is no teaching, or convincing line of reasoning provided to one skilled

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in the art to modify Wilson and Querlaux to provide an apparatus that detects and analyzes electrical signals, prior to and after topical application of a compound and electrical stimulation, and which displays a curve representative for differentials in the signals detected based on the analyzed signals, the rejection should be withdrawn. Reconsideration and withdrawal of the rejection are respectfully requested.

Fees

A Petition for a One-month Extension of Time and requisite fee are enclosed. No additional fees are believed due, but the Commissioner is authorized to charge any fees deemed due (or credit any balance) to Deposit Account No. 50-1177.

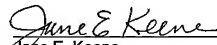
Conclusion

It is respectfully submitted that Claims 20-22, 24-26 and 28-40 are in condition for allowance. A Notice of Allowance is respectfully requested. If anything further is needed to advance the allowance of this application, the Examiner is respectfully requested to contact Applicants' attorney at the telephone number indicated below.

Respectfully submitted,

July 28, 2008

Date


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